REMARKS

As a result of the foregoing amendment, claims 1-4 have been cancelled and new claim 8 has been added. Claims 5 and 6 have been amended. Claim 7 has been deleted and new claim 9 has been added. In light of the cancellation of claim 7, it is clear that the rejection under 35 USC 112, second paragraph, has been obviated and should be withdrawn.

Reconsideration and withdrawal of the rejection of the claims as amended as being anticipate by the Barndad et al patent '850 are requested. As seen from new claim 8, the present invention as claimed is an improved nucleotide fragment-analyzing element i.e., a DNA chip. It is characterized in that the probe molecules, i.e., oligonucleotides, polynucleotides or peptide-nucleotides, are fixed to a solid carrier which is covered with a silver or copper metal film via alkyne chains attached to probe molecules.

The examiner asserts that the '850 patent discloses an article suitable for the determination of analytes using an element which comprises a substrate, a metal film, and a self assembled monolayer of the species X-R-NA-NAB wherein the X represents a functional group that adheres to the surface, R is a spacer moiety which is disclosed in col. 10 and NA is a nucleic acid disclosed at col. 5-10. Preferred surface materials are disclosed as including silver and copper (col. 10).

This reference does not teach nor remotely suggest that the group X can be an alkyne group. It should be noted that the examples of functional groups taught in this reference are only sulfur-containing groups such as thiols, sulfides and disulfides (see column 10, lines 10-11). Thus, this reference contains no suggestion whatsoever of the use of an alkyne group of the use of an alkyne group as required by the present claims. Accordingly, this reference does not anticipate the present invention as claimed and this rejection is untenable and should be withdrawn.

It is submitted that this application is now in condition for allowance and favorable reconsideration and prompt notice to that effect are earnestly solicited.

Respectfully submitted,

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Amendments to the Claims

1. (cancelled)
2. (cancelled)
3. (cancelled)
4. (cancelled)

5. (currently amended) The element of ~~claim 3~~ claim 8, wherein the alkyne group is attached to the terminal of the ~~nucleotide derivative or the analogue~~ oligonucleotide, polynucleotide, or peptide-nucleotide via a linking group.

6. (currently amended) The element of ~~claim 3~~ claim 8, wherein the alkyne group is derived from one selected from the group consisting of acetylene, methylacetylene, 1-butyne, 1-pentyne, 1-hexyne, 1-heptyne, 1-octyne, 1-nonyne, and 1-decine.

7. (cancelled)

8. (new) An element comprising a solid carrier and a group of oligonucleotides, polynucleotides, or peptide-nucleotides which are fixed to the solid carrier, in which the solid carrier is covered with a silver metal film or a copper metal film, the oligonucleotide, polynucleotide, or peptide-nucleotide has an alkyne chain, and the alkyne chain is directly attached to the silver metal film or a copper metal film on the solid carrier.

9. (new) A method of producing the element of claim 8, which comprises the steps of :

preparing a group of oligonucleotides, polynucleotides, or peptide-nucleotides having an alkyne chain at terminals thereof and a solid carrier covered with a silver metal film or a copper metal film; and

bringing the group of oligonucleotides, polynucleotides, or peptide-nucleotides having an alkyne chain into contact with the silver metal film or copper metal film of the solid carrier in a liquid phase.